



VCU

School of Medicine

Hair Today, Gone Tomorrow: Scarring alopecia

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DISCLOSURE OF RELATIONSHIPS WITH INDUSTRY

Kimberly S. Salkey, MD

Hair Today, Gone Tomorrow: Scarring alopecia

DISCLOSURES

I do not have any relevant relationships with industry.

Overview

- ▶ Background
 - ▶ Impact factor
 - ▶ Common themes
- ▶ Case review
 - ▶ Findings
 - ▶ Diagnosis
 - ▶ Management approach



- Hair loss x 15 years
- 3rd dermatologist
- Salon “treatments”
- Hair weaves
- Husband left

Health-related quality of life (hrQoL) among patients with primary cicatricial alopecia (PCA): A systematic review

Rashmi Singh  | Doris Wilborn  | Dimitra-Aikaterini Lintzeri  | Ulrike Blume-Peytavi 

- ▶ >70% of patients had impaired quality of life
- ▶ Negative effect
 - ▶ Trichodynia
 - ▶ Anxiety
- ▶ No effect
 - ▶ Disease duration
 - ▶ Education
 - ▶ Employment
 - ▶ Marital status
- ▶ BOTTOM LINE: “Cicatricial alopecia treatments must be integrated with psychosocial intervention...”

I can see how
this is
affecting
you...

This is a lot for
anyone to deal
with...

Assessment of health-related quality of life in patients with frontal fibrosing alopecia

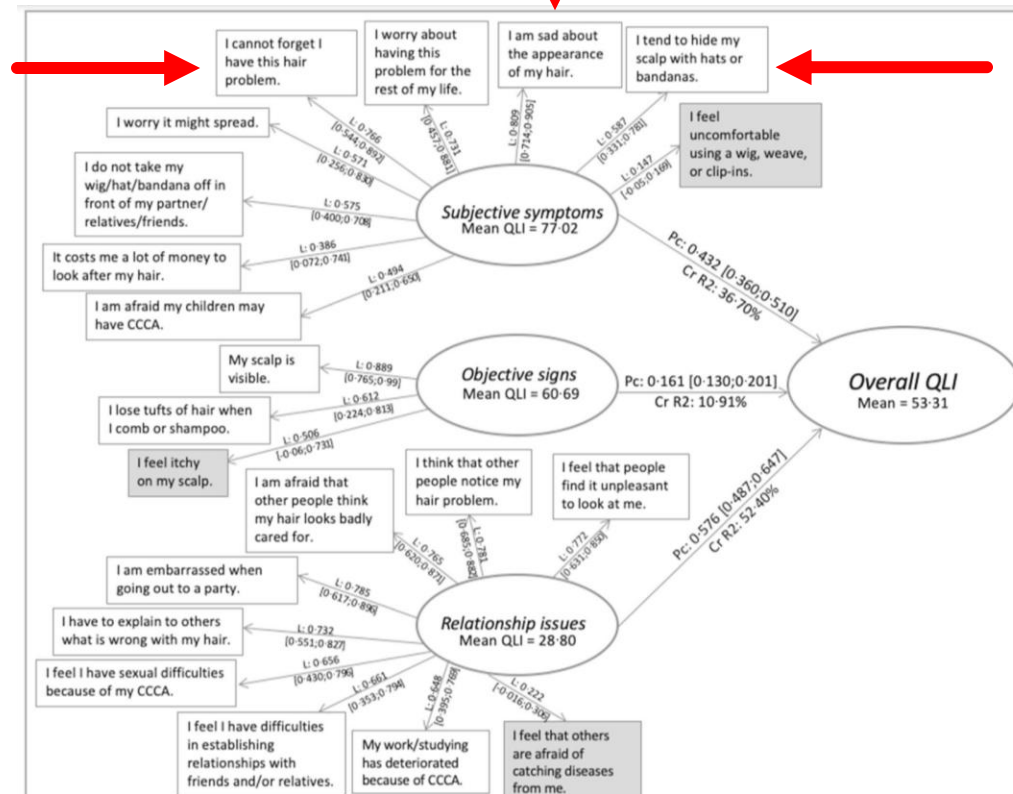
Aida Varghaei MD  | Anahita Rostami MD | Mahsa Yarmohamadi MD |
Hamidreza Mahmoudi MD  | Kamran Balighi MD | Maryam Daneshpazhooh MD 

- ▶ >50% of patients with significantly low quality of life scores
- ▶ Scarring alopecia impact > non-scarring alopecia
- ▶ Younger patients more vulnerable

Research letter | [Full Access](#)

Quality of life in patients with central centrifugal cicatricial alopecia: a preliminary study

Abena Maranga, Fritzlaine C. Roche, Maryam Alausa, Tara McWilliams, David J. Margolis, Gabriella Fabbrocini, Carlo Natale Lauro, Rosanna Cataldo, Susan C. Taylor 





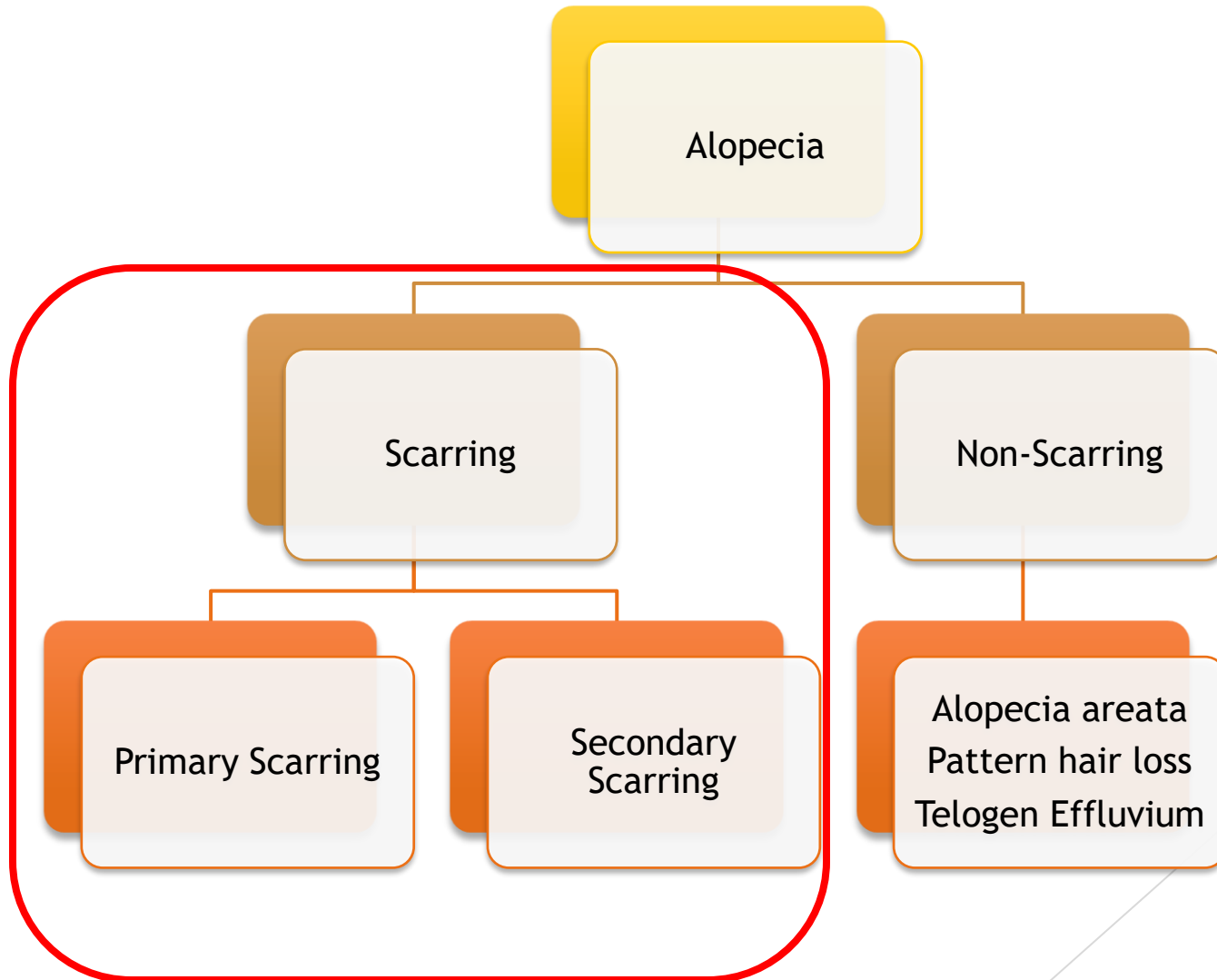
Article

Quality of Life and Mood Status Disturbances in Cohabitants of Patients with Alopecia Areata: A Cross-Sectional Study in a Spanish Population

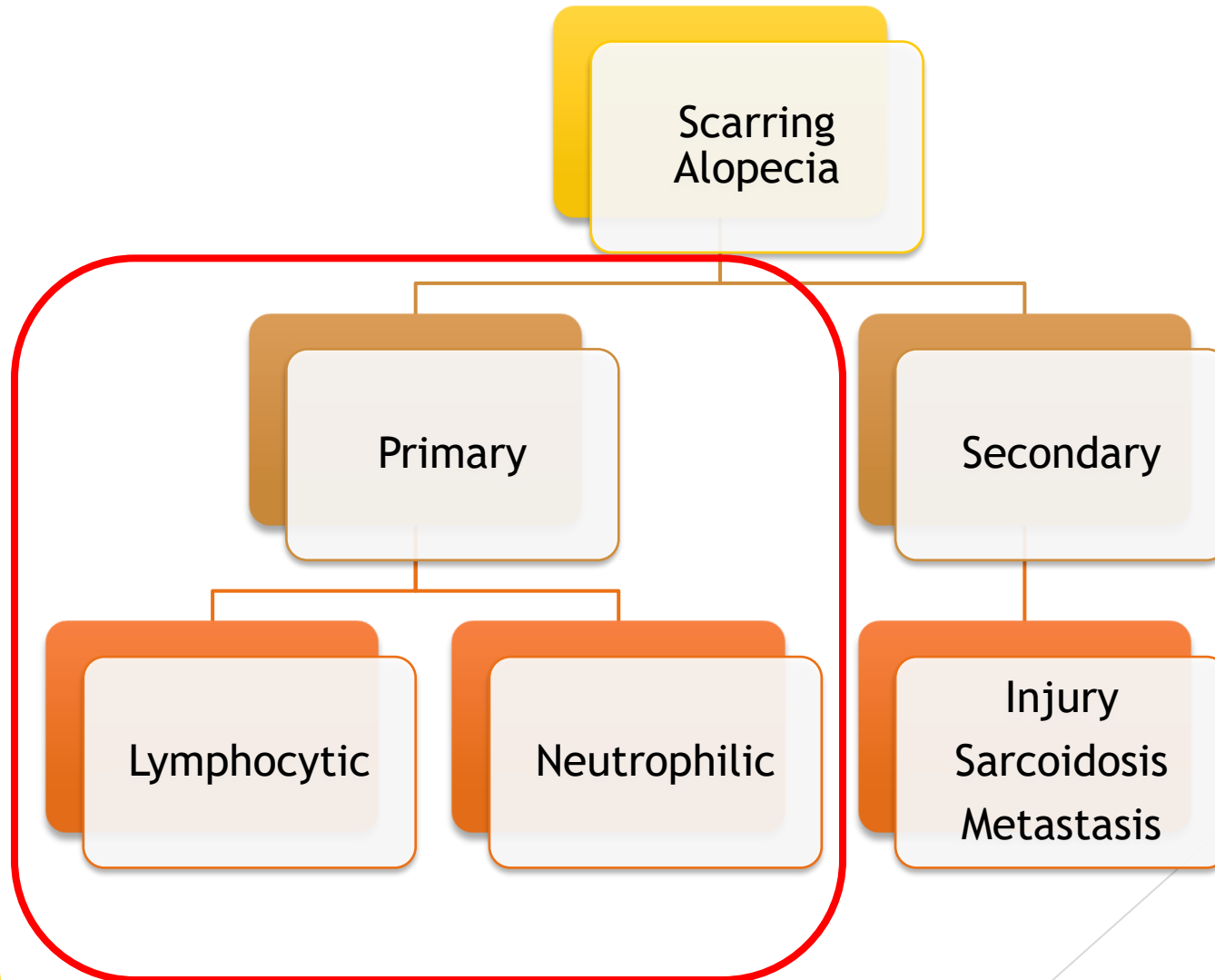
Manuel Sánchez-Díaz ^{1,2} , Pablo Díaz-Calvillo ^{1,2} , Clara-Amanda Ureña-Paniego ^{1,2},
Alejandro Molina-Leyva ^{1,2,*}  and Salvador Arias-Santiago ^{1,2,3,4} 

Anxiety
Depression

Alopecia Classification



Scarring Alopecia



Scarring Alopecia

Proposed working classification
cicatricial alopecia

Lymphocytic
Ch

DERMATOPATHOLOGY

Primary cicatricial alopecia: Histopathologic findings do not distinguish clinical variants

J Am Acad Dermatol 2005;52:637-43.)

Keratos
Neutrophilic

Folliculitis decalvans³

Dissecting cellulitis/folliculitis³ (*perifolliculitis
abscedens et suffodiens*)

Mixed

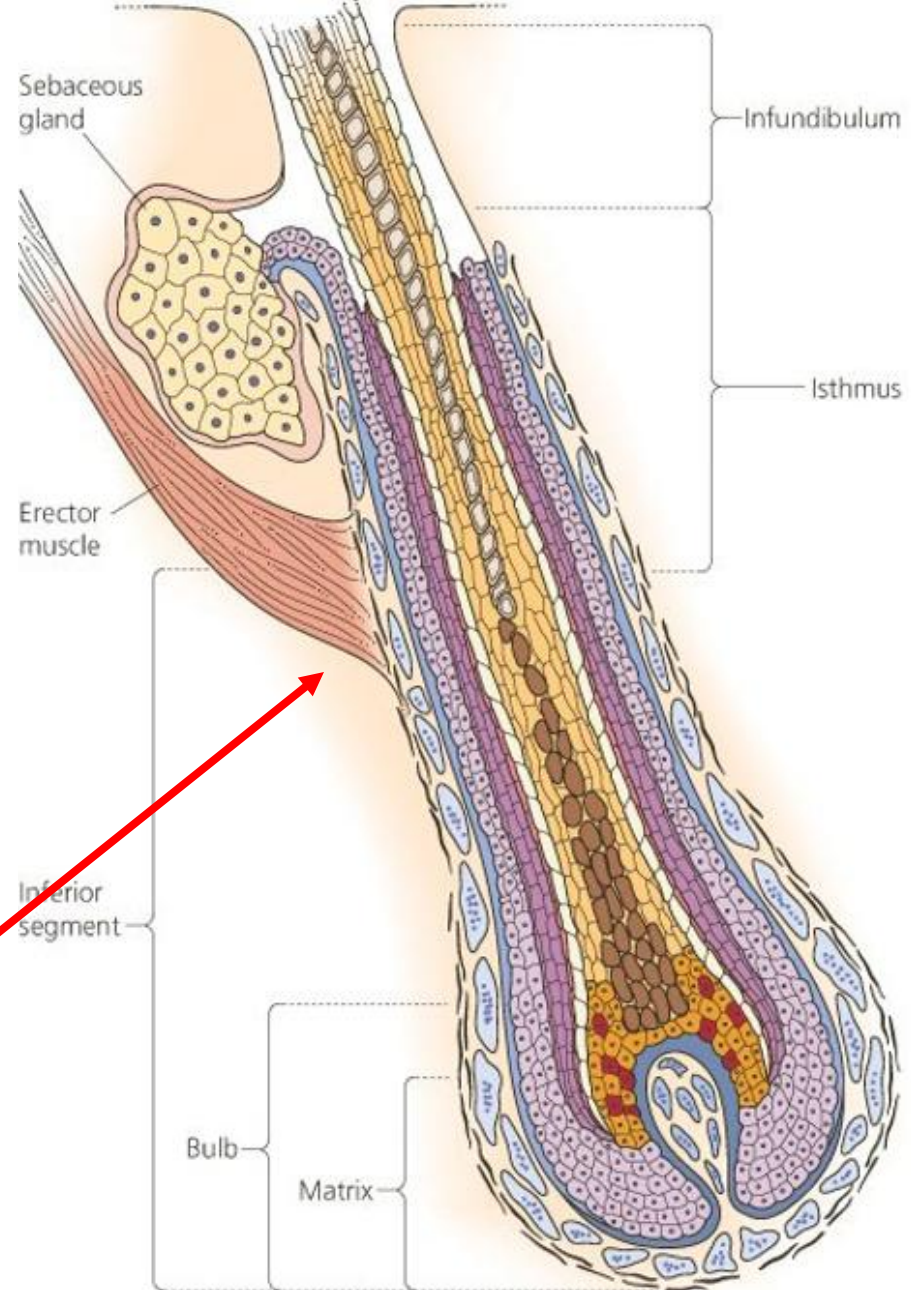
Folliculitis (acne) keloidalis⁹

Folliculitis (acne) necrotica³

Erosive pustular dermatosis¹⁰

Scarring alopecia

- ▶ Common features
 - ▶ Permanent destruction of the hair follicle
 - ▶ Follicular units are replaced by fibrous tissue
 - ▶ Hair loss is progressive and permanent
- ▶ Hypotheses of pathogenesis
 - ▶ Loss of immune privilege of the hair follicle bulge



CC: Thinning in the front



**Differential
diagnosis**

Traction

Frontal Fibrosing
Alopecia

Alopecia areata
(sisaipho)

Dermoscopy Findings



Frontal Fibrosing Alopecia

- ▶ Kossard S. Postmenopausal frontal fibrosing alopecia: scarring alopecia in a pattern distribution. Arch Dermatol. 1994;130(6):770-774.
- ▶ Eyebrow loss > body hair loss > occipital scalp loss
- ▶ Prototypical patient
 - ▶ Post menopausal
 - ▶ Caucasian
 - ▶ Female



Frontal Fibrosing Alopecia



Frontal Fibrosing Alopecia





Current and emerging treatment strategies for hair loss in women of color

Table 1

Differences in frontal fibrosing alopecia presentation at the time of diagnosis in women of African descent and Caucasian women

Clinical presentation	Women of African descent	Caucasian women
Average age at diagnosis, years	40-42 [†]	55.5-63 [†]
Frontotemporal hair loss	+	+
Follicular hyperkeratosis	+	+
Scalp pruritus	+/-	+
Eyebrow alopecia	+	+
Perifollicular erythema*	+/-	+
Speckled follicular hyperpigmentation on dermoscopy [†]	+	-
Scale*	+/-	+
Loss of follicular ostia	+	+
Papules/pustules*	+/-	+/-
Lichen planus pigmentosus (LPPigm)	+	-

* Symptoms may not be present in women of color at the time of diagnosis because they may not be as common or as noticeable due to increased pigment in the skin (Callender et al., 2016).

[†] Sources: Callender et al., 2016; Samrao et al., 2010.

Frontal Fibrosing Alopecia



Frontal Fibrosing Alopecia



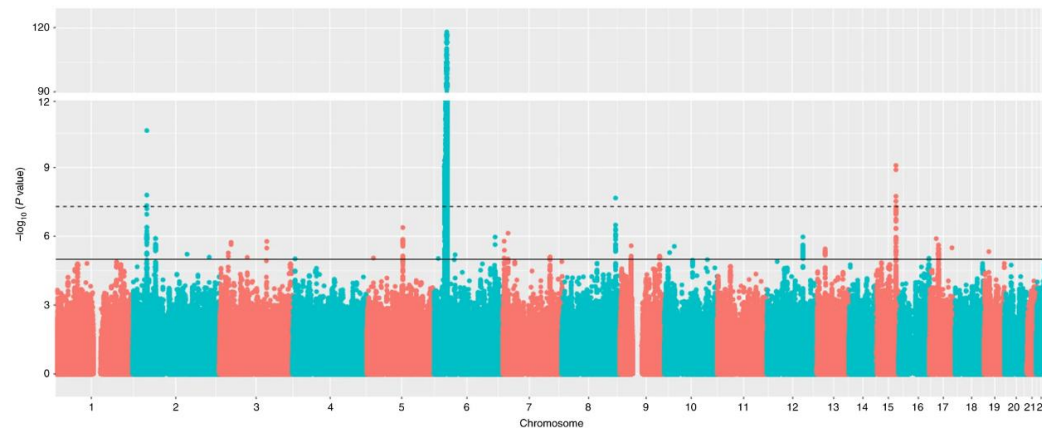
Frontal Fibrosing Alopecia in Men

Item	All (n = 270)	LPP (n = 215)	FFA (n = 37)	LPP + FFA (n = 18)
Current mean age $\pm$ SD	52.54 $\pm$ 14.72	52.03 $\pm$ 14.85	56.92 $\pm$ 12.79	49.66 $\pm$ 15.90
Mean age at diagnosis $\pm$ SD	45.77 $\pm$ 14.63	45.00 $\pm$ 14.60	50.68 $\pm$ 13.63	45.11 $\pm$ 15.87
Race, race, ethnicity, or origin, n (%)				
American Indian or Alaska Native	1 (0.37)	1 (0.47)	0 (0.00)	0 (0.00)
Asian	12 (4.44)	8 (3.72)	2 (5.41)	2 (11.11)
Black and/or African American	14 (5.19)	10 (4.65)	2 (5.41)	2 (11.11)
Non-White Hispanic, Latino, or Spanish origin	9 (3.33)	9 (4.19)	0 (0.00)	0 (0.00)
Middle Eastern or North African	3 (1.11)	3 (1.40)	0 (0.00)	0 (0.00)
Native Hawaiian or other Pacific Islander	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
White (Hispanic and Non-Hispanic)	191 (70.74)	147 (68.37)	31 (83.78)	13 (72.22)
Other race, ethnicity, or origin	40 (14.81)	37 (17.21)	2 (5.41)	1 (5.56)



Frontal Fibrosing Alopecia Etiology

- ▶ Genetic predisposition
 - ▶ 2010- two sisters
 - ▶ 2021- twenty-seven families reported
 - ▶ 2 large Case series (Spain and Brazil)- FFA reported in another family member in 8 and 9% of cases
 - ▶ GWAS - strongest association at **6p21.1** locus and **HLA-B*07:02** allele



Frontal Fibrosing Alopecia Etiology

- ▶ Environmental factors
 - ▶ Personal care products
 - ▶ Endocrine factors
 - ▶ Contact allergy

Why has this just now been identified?

Why is there such striking hairline and face involvement?

Why is it mainly in postmenopausal women?

Is there a common factor among different races and ethnicities?

Frontal Fibrosing Alopecia

Pathogenesis: Sunscreen

Maghfour J, Ceresnie M, Olson J, Lim HW. **The association between frontal fibrosing alopecia, sunscreen, and moisturizers: A systematic review and meta-analysis.** J Am Acad Dermatol. 2022 Aug;87(2):395-396.

Tosti A, Bergfeld WF, Christiano AM, Elston DM, Gavazzoni Dias MF, Goldberg L, Hordinsky MK, Seykora J, Ceh V. **Response from the American Hair Research Society to "Sunscreen and frontal fibrosing alopecia: A review".** J Am Acad Dermatol. 2020 Mar;82(3):729-730.

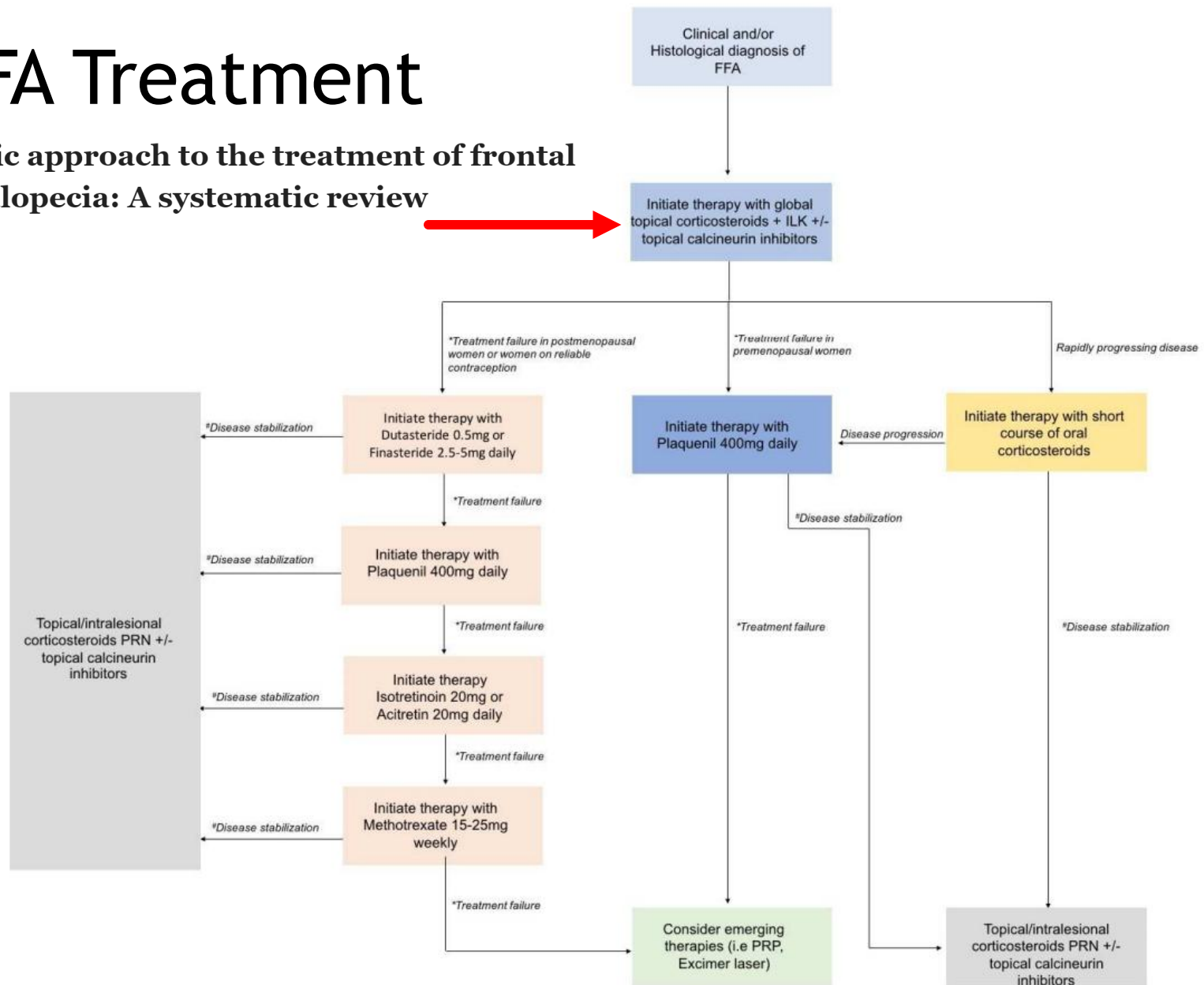
Robinson G, McMichael A, Wang SQ, Lim HW. **Sunscreen and frontal fibrosing alopecia: A review.** J Am Acad Dermatol. 2020 Mar;82(3):723-728.

Felmingham C, Yip L, Tam M, Nixon RL. **Allergy to sunscreen and leave-on facial products is not a likely causative mechanism in frontal fibrosing alopecia: perspective from contact allergy experts.** Br J Dermatol. 2020 Feb;182(2):481-482.

Abuav R, Shon W. **Are Sunscreen Particles Involved in Frontal Fibrosing Alopecia?-A TEM-EDXS Analysis on Formalin-Fixed Paraffin-Embedded Alopecia Biopsies (Pilot Study).** Am J Dermatopathol. 2022 Dec 1;44(12):e135-e136

FFA Treatment

Algorithmic approach to the treatment of frontal fibrosing alopecia: A systematic review



Frontal Fibrosing Alopecia Treatment

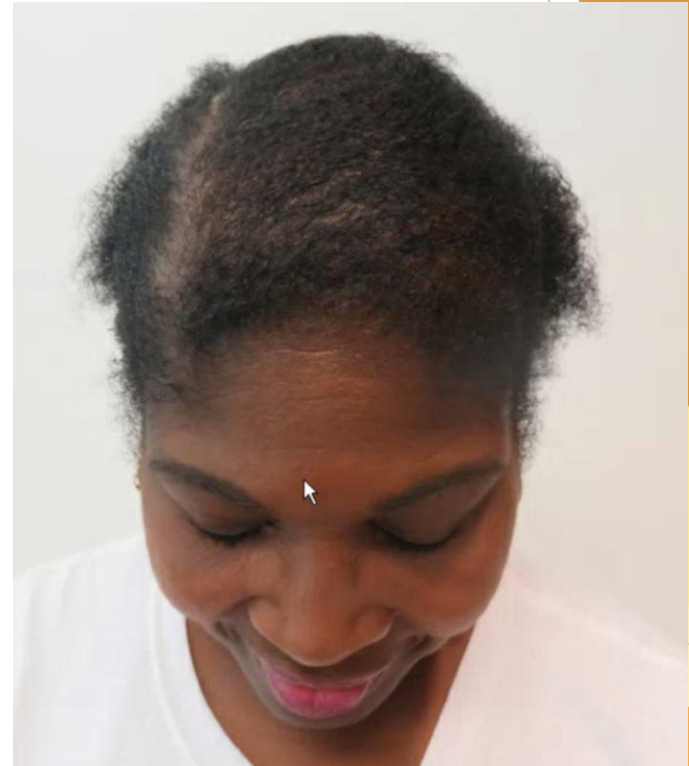
Treatment	Modality	Comments	GRADE ^a
Topical			
Corticosteroids	Potent or highly potent		D
Calcineurin inhibitors	Tacrolimus Pimecrolimus	Pimecrolimus usually preferred due to cream vehicle	D
Minoxidil			E
Intralesional			
Corticosteroid	Triamcinolone 2.5–10 mg/mL		D
PRP		In combination with other treatments	D
Systemic			
5 α -reductase inhibitors	Finasteride 1–5 mg daily Dutasteride 0.5 mg daily	More evidence for dutasteride than finasteride	D
Hydroxychloroquine	Up to 5 mg/kg/day (6.5 mg?)	Screening for retinal toxicity required	D
Retinoids	Isotretinoin Acitretin	Isotretinoin may help to reduce facial papules	D
Antibiotics	Doxycycline 100–200 mg daily Lymecycline 4008 mg once or twice daily		E
Other pharmacotherapies			
	Naltrexone	Reduced erythema	D
	JAK inhibitors	RCTs in progress	D
	Oral minoxidil	Some improvement in LPP	E
Phototherapy			
	Low level laser light	May help eyebrows	D
Surgery			
	Hair transplantation	Good short-term but long-term results mostly poor	D

JAK Janus kinase, *RCT* randomised controlled trial, *LPP* lichen planopilaris, *PRP* platelet-rich plasma

^aGrading of evidence levels: A: Double-blind study; B: Clinical trial $\geq$ 20 subjects; C: Clinical trial < 20 subjects; D: Series $\geq$ 5 subjects; E: Anecdotal case reports



CC: Thinning on top



**Differential
diagnosis**

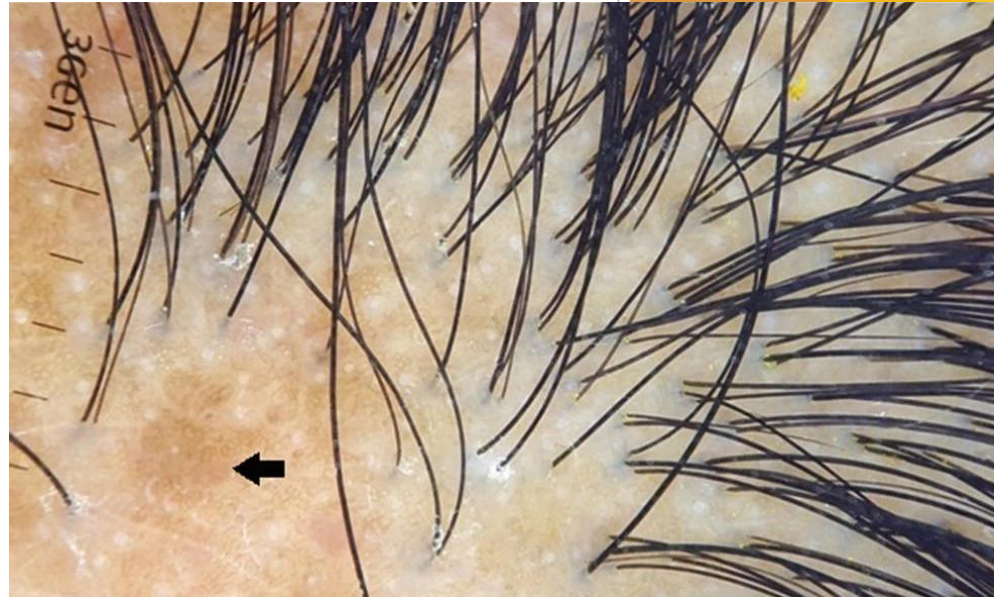
FPHL

CCCA

Diffuse AA

Tinea capitis

Dermoscopy



Central Centrifugal Cicatricial Alopecia

- ▶ Many name changes
- ▶ Progressive scarring alopecia
- ▶ Begins at crown or vertex
- ▶ Primarily occurs in women of African decent
- ▶ Etiology unknown- likely multifactorial



20's



30's



40's



50's



60's



70's



Lessons from a scoping review: Clinical presentations of central centrifugal cicatricial alopecia



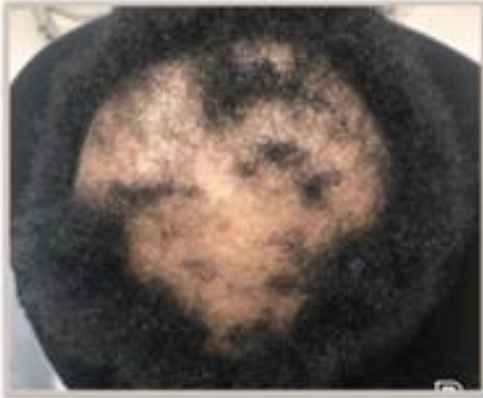
Yacine N. Sow, BA,^a Tiaranesha K. Jackson, MPH,^b Susan C. Taylor, MD,^c and Temitayo A. Ogunleye, MD^c

- ▶ Understanding atypical central centrifugal cicatricial alopecia clinical presentation is essential for accurate diagnosis and treatment
- ▶ 99 studies reviewed with 281 cases of CCCA
 - ▶ 72% classic
 - ▶ 28% atypical cases

Location	Percentage
Patchy	8%
Trichorrhhexis	6%
Parietal	3%
Frontal	0.7%
Temporal	0.7%
Occipital	0.4%

*All biopsy
confirmed CCCA

CCCA Presentation Variations



Classic



Occipital / Posterior Vertex



Frontal - Parietal



Patchy



Temporal



Decreased Hair Density

CCCA Presentation Variation



Frontal



Occipital



Trichorrhexis

Central centrifugal cicatricial alopecia in males



Tiaranesha K. Jackson, MPH,^a Yacine Sow, BA,^b Katherine Omuetti Ayoade, MD, PhD,^c
John T. Seykora, MD, PhD,^{c,d} Susan C. Taylor, MD,^c and Temitayo Ogunleye, MD^c

- ▶ Chart review (2012-2022)
- ▶ 17 men identified
- ▶ Unique features
 - ▶ Symptomatic (76%)
 - ▶ Atypical patterns (47%)
 - ▶ Not associated with high tension hair styles (82%)
 - ▶ Limited comorbidities
 - ▶ 3 cases with latent TB



Central centrifugal cicatricial alopecia in males



Tiaranesha K. Jackson, MPH,^a Yacine Sow, BA,^b Katherine Omuetti Ayoade, MD, PhD,^c
John T. Seykora, MD, PhD,^{c,d} Susan C. Taylor, MD,^c and Temitayo Ogunleye, MD^c



Classic



Occipital



Patchy

Central Centrifugal Cicatricial Alopecia



Correspondence |  Full Access

Comorbidities in patients with central centrifugal cicatricial alopecia: a case–control study

Tejas P. Joshi BS , Anthony Duruewuru BS, Danielle Garcia BS, Nabor Mireles BSA, Paulina Truong BS, Clay J. Cockerell MD, JD, MBA

- ▶ National Institute of Health's All of Us research program
- ▶ 201 patients identified
- ▶ Controls matched by age, race, ethnicity, gender
- ▶ More likely in those with CCCA:
 - ▶ Metabolic abnormalities
 - ▶ Autoimmune disease
 - ▶ Atopy
 - ▶ Psychological disorder

Correspondence |  Full Access

Comorbidities in patients with central centrifugal cicatricial alopecia: a case-control study

Tejas P. Joshi BS , Anthony Duruewuru BS, Danielle Garcia BS, Nabor Mireles BSA, Paulina Truong BS, Clay J. Cockerell MD, JD, MBA

Risk Factor	Odds Ratio
Hyperlipidemia	5.20 
Hypertension	8.62 
Type 2 diabetes	5.66 
Allergic rhinitis	6.03 
Asthma	3.55 
Atopic dermatitis	4.94 
Autoimmune condition	4.92 
Depression	3.23 
Anxiety	5.37 

Association of **breast and colorectal cancer** in patients with central centrifugal cicatricial alopecia: A retrospective, cross-sectional pilot study

Jessica B. Brown-Korsah, BS^{a,b} · Fritzlaine C. Roche, MS^{a,c} · Susan C. Taylor, MD^a  



- ▶ Women with CCCA with 3X increased likelihood of history of breast cancer compared to race, age, sex matched controls
- ▶ Hypothesis: genetic or environmental factors, PADI3 mutation

Research Letter

JAMA Dermatology

Association of **Uterine Leiomyomas** With Central Centrifugal Cicatricial Alopecia

Yemisi Dina, BS¹; Ginette A. Okoye, MD²; Crystal Aguh, MD²

2018;154;(2):213-214

- ▶ Women with CCCA have 4.68X increased likelihood of uterine leiomyomas compared to controls with LPP

Type 2 diabetes mellitus and central centrifugal cicatricial alopecia severity

Shaheir Ali, BA^a · Maya Collins, BS^a · Susan C. Taylor, MD^b · Kristen Kelley, BA^a · Emma Stratton, BSN^a · Maryanne Senna, MD^{a,c}  

International Journal of **WOMEN'S Dermatology**

► Int J Womens Dermatol. 2019 Jun 6;5(4):261–266. doi: [10.1016/j.ijwd.2019.05.010](https://doi.org/10.1016/j.ijwd.2019.05.010) 

Association of type 2 diabetes with central-scalp hair loss in a large cohort study of African American women☆☆☆

[Patricia F Coogan](#)^{a,*}, [Traci N Bethea](#)^a, [Yvette C Cozier](#)^a, [Kimberly A Bertrand](#)^a, [Julie R Palmer](#)^a, [Lynn Rosenberg](#)^a, [Yolanda Lenzy](#)^{b,c}

► J Am Acad Dermatol. 2022 Mar;86(3):661–662. doi: [10.1016/j.jaad.2021.02.036](https://doi.org/10.1016/j.jaad.2021.02.036). Epub 2021 Feb 18.

Association of type 2 diabetes with central centrifugal cicatricial alopecia: A follow-up study

[Fritzlaine C Roche](#)¹, [Jasmine Harris](#)², [Temitayo Ogunleye](#)³, [Susan C Taylor](#)⁴

Low-Dose Metformin and Profibrotic Signature in Central Centrifugal Cicatricial Alopecia

Aaron Bao, BA¹; Aasheen Qadri, BS¹; Aditi Gadre, BS^{1,2}; [et al](#)

Vol. 160, No. 11

- ▶ 12 patients
- ▶ Metformin ER 500mg QD
- ▶ 9 patients improved
- ▶ 6 with evidence of hair regrowth after 6 months
- ▶ Tissue analysis from 4 patients
 - ▶ Upregulation of hair growth pathways
 - ▶ Downregulation of fibrotic pathways

Low-Dose Metformin and Profibrotic Signature in Central Centrifugal Cicatricial Alopecia

Aaron Bao, BA¹; Aasheen Qadri, BS¹; Aditi Gadre, BS^{1,2}; [et al](#)

Vol. 160, No. 11

A Patient 2

Before treatment

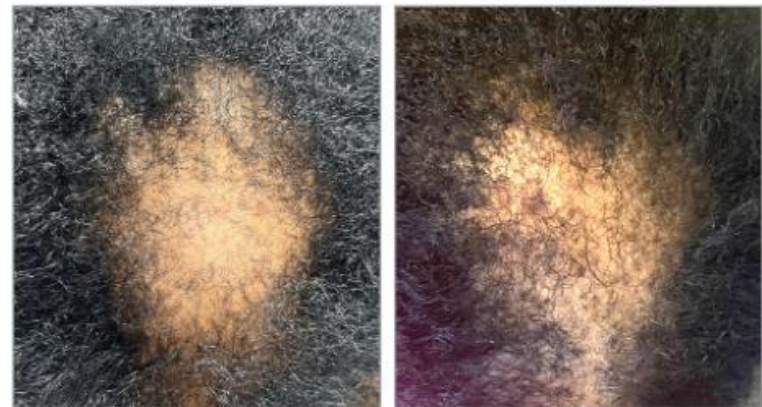
8 mo After treatment



B Patient 4

Before treatment

6 mo After treatment



C Patient 8

Before treatment

7 mo After treatment



Low-Dose Metformin and Profibrotic Signature in Central Centrifugal Cicatricial Alopecia

Aaron Bao, BA¹; Aasheen Qadri, BS¹; Aditi Gadre, BS^{1,2}; [et al](#)

Vol. 160, No. 11

Table 2. Summary of Previously Characterized Pathways Dysregulated in Central Centrifugal Cicatricial Alopecia (CCCA) Pathogenesis and Metformin Treatment-Associated Pathway Changes

Gene ontology pathway	CCCA-defined dysregulation ^a	Posttreatment with metformin ^b
Collagen fibril organization	Upregulated	Downregulated
Extracellular organization	Upregulated	Downregulated
Collagen catabolic process	Upregulated	Downregulated
Hair cycling	Downregulated	Upregulated
Keratinization	Downregulated	Upregulated
Unsaturated fatty acid biosynthetic process	Downregulated	Upregulated

^a Previously defined gene pathways characteristic of affected scalp in patients with CCCA by Aguh et al.³

^b Relative to pretreatment values.

CCCA s/p 6 months PO Metformin



December 2024



June 2025

Metformin for CCA

▶ Screen:

- ▶ HgA1c

- ▶ HOMA-IR

 - ▶ $[\text{Fasting Glucose (mg/dL)} \times \text{Fasting Insulin (uU/mL)}] / 405$

 - ▶ < 1.0: insulin sensitivity

 - ▶ 1.0-1.9: suggests mild insulin resistance

 - ▶ > 2.0: indicates moderate to severe insulin resistance

▶ Avoid if:

- ▶ Fasting glucose is below 80

- ▶ A1c is below 5.3

} May experience hypoglycemia

▶ Side effects:

- ▶ Weight loss

- ▶ Fertility

- ▶ GI upset

- ▶ Lactic acidosis (in those with kidney disease)

Treatment for central centrifugal cicatricial alopecia—Delphi consensus recommendations



Tiaranesha Jackson, MPH,^a Yacine Sow, BA,^b Jewell Dinkins, MS,^c Crystal Aguh, MD,^d Katherine Omuetti Ayoade, MD, PhD,^e Victoria Barbosa, MD, MPH, MBA,^f Cheryl Burgess, MD,^g Valerie Callender, MD,^h George Cotsarelis, MD,^c Pearl Grimes, MD,ⁱ Valerie Harvey, MD, MPH,^{j,k} Chesahna Kindred, MD, MBA,^l Jenna Lester, MD,^m Kristen Lo Sicco, MD,ⁿ Tiffany Mayo, MD,^o Amy McMichael, MD,^p Michelle Oboite, MD,^{c,q} Temitayo Ogunleye, MD,^c Elise Olsen, MD,^r Achiamah Osei-Tutu, MD,^s Melissa Piliang, MD,^t Maryanne Senna, MD,^u Jerry Shapiro, MD,ⁿ Antonella Tosti, MD,^v Cheri Frey, MD,^w Prince Adotama, MD,ⁿ and Susan C. Taylor, MD^c

- ▶ 27 dermatologists
- ▶ 3 rounds
- ▶ Consensus ($\geq 75\%$) reached on 20 of 70 overall statements
- ▶ Establishes a framework to guide clinical practice

Treatment for central centrifugal cicatricial alopecia—Delphi consensus recommendations



Topical therapy

High potency topical corticosteroids- first line

High potency TCS daily x 4 weeks then taper

High potency TCS 2-5 times per week for maintenance

Topical minoxidil % or greater- adjunct tx

Systemic therapy

Oral doxycycline (or other tetracycline) up to 200mg QD

Oral doxycycline up to 6 months for active disease

Systemic corticosteroids are NOT appropriate

Treatment for central centrifugal cicatricial alopecia—Delphi consensus recommendations



Procedural

Intralesional steroids 5-10mg/cc for active disease q4-12 weeks

Max 20mg of intralesional steroids in 1 session

No evidence of active scalp disease for at least 1 year before hair transplant

Not enough evidence to recommend PRP/fibrin matrix

Supplements and Behavioral

Screen for Vitamin D and iron/ferritin- correct PRN

Discontinue or limit traction inducing hair styles

Refer for counseling or support PRN

Shampoo scalp at least every 2 weeks

Treatment for central centrifugal cicatricial alopecia—Delphi consensus recommendations



Did NOT reach consensus

Recommendation for zinc and other antioxidant, anti-inflammatory, and anti-androgenic supplements (including calcineurin inhibitors, metformin)

Screening for type 2 diabetes mellitus

Limitation of thermal heat practices or permanent dye

Oral hydroxychloroquine when response is inadequate to other therapies

Discontinue or limit use of chemical relaxers

Moderate consensus

CCCA

3 months doxy, PO minoxidil, clobetasol BIW



January 2024



July 2025

Courtesy of Kimberly Salkey, MD

CCCA

ILK, Ketoconazole shampoo, Rosemary oil



Courtesy of Kimberly Salkey, MD

CCCA



Courtesy of Kimberly Salkey, MD

Scarring Alopecia Future

ORIGINAL ARTICLES

A phase 2a trial of brepocitinib for cicatricial alopecia



J Am Acad Dermatol 2025;92:427-34.

Research Letter

Janus Kinase Inhibitor Therapy for Cicatricial Alopecias: An Evidence-Based Review

DOI: 10.1177/12034754241266153

J Cutan Med Surg. 2024 Sep-Oct;28(5):505-506

THERAPEUTIC HOTLINE: SHORT PAPER

DERMATOLOGIC
THERAPY

WILEY

Recalcitrant lichen planopilaris and frontal fibrosing alopecia responding to tildrakizumab

Dermatol Ther. 2020 Jul;33(4):e13694.

Summary



Don't underestimate the psychological toll that alopecia has on patients



Consider atypical presentations of scarring alopecias



Biopsy is valuable (but not diagnostic alone) for

making a diagnosis
patient education
determining prognosis and treatment



Aggressively target inflammation



Stay tuned for emerging treatments

Thank You!





Hair Today, Gone Tomorrow: Scarring alopecia

Kimberly S. Salkey, MD

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Associate Professor

Residency Program Director
Department of Dermatology

CCCA Approach

